



The Gleaner

NATIONAL AGRICULTURAL COLLEGE

DOYLESTOWN, BUCKS COUNTY, PENNSYLVANIA

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EDITORIAL

Beginning with this issue the *Furrow* and the *Gleaner* will be merged in one publication. Henceforth the *Furrow*, as the campus recorder of current events, will appear twice a month during the college year (exclusive of vacations and examination periods), and the *Gleaner* will be a monthly insert of scientific and literary articles. The relationship will be that of the daily newspaper and its Sunday supplement.

Consolidation at this time of these two N.A.C. publications (the *Cornucopia* is not involved) has seemed in the best interest of both, and both are highly desirable adjuncts of college life.

The *Gleaner*, whose honorable cover began before 1900 at the Farm School, provides an opportunity for students (and occasionally professors and alumni) to share with others facts and thoughts gleaned from books or personal experience in diverse fields. "The Silent Generation," as young people today are sometimes described, would perhaps not be so silent if encouraged to write in our pages about what they consider worth while aspects of present-day life.

The imperative need for everyday communication between all members of our expanding community is met by the *Furrow*. It has the additional task of keeping our alumni informed of campus affairs.

To provide current news at stated intervals, and to present more leisurely thoughts periodically, requires far more time and effort on the part of student editors than most of the readers of *Furrow* and *Gleaner* probably realize. We find that few if any colleges comparable in size to N.A.C. maintain more than one campus publication other than a yearbook, and therefore have no apologies for combining *Furrow* and *Gleaner*. Many of us have contributed in one way or another to both publications. We feel that by combining our efforts we can raise the standards of student writing and editing at N.A.C. We ask our readers and advertisers to give us their continued support.

Tribute To A Dedicated Man

by Len Hilsen

Mr. David M. Purnell was born in a small Latvian town near Leningrad, Russia.

His early educational training began while he was an undergraduate student at the Imperial School of Agronomy in Russia. Here he completed a four year course and received many honors. Upon graduating from this school in 1907 he was awarded a traveling scholarship to the U. S. for postgraduate studies in General Agriculture at the Baron de Hirsch Agricultural School in Woodbine, N. J. In 1908 he graduated from the school.

After working on farms in New England, Mr. Purnell entered Michigan State University in 1909, and majored in Pomology and Agricultural Education. In 1914 he graduated with a Bachelor of Science and a Bachelor of Education degree.

Shortly after graduation from Michigan State he was appointed professor of Horticulture and soon advanced to the position of Dean of the Baron de Hirsch School, staying there until 1919. From 1919 to 1922 Mr. Purnell headed the research work for the Baron de Hirsch

Foundation in Peckskill, N. Y. While in N. Y. Mr. Purnell also conducted experimental work for Jewish Agricultural Society of N. Y.

In January, 1922, he was appointed to the position of Arboriculturist and took charge of the planting and cultivating of trees and shrubs at the National Farm School.

Soon after his arrival and for the years following Mr. Purnell put his wealth of practical knowledge and teaching experience in the building and expanding of his newly created Horticulture department. He is responsible for the planting of over 100 acres of orchards, for the work done on vegetable production, and for the designing of the three-story horticultural storage building which enabled the school to store fruits and vegetables for long periods of time, to house machinery and allowed space for class rooms.

During the Second World War Mr. Purnell was appointed to the committee on Food and Agriculture by the Governor of Pennsylvania; he sponsored model vegetable demonstration gardens in the

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Picture by H. Botero

Some Thoughts On Swine Production

by Dr. Pelle

Swine products are a very important part of the human diet—most everybody likes ham and pork chops—and hog prices have a great effect on the farmer's income. The swine population is 60 million in America and roughly 50 million are slaughtered yearly. That means every year 50 million hogs have to be raised for market and for replacement. The per capita consumption among Americans is between 60 and 70 lbs. of pork per year. The above figures prove the importance of this phase of agriculture and also might explain the "why" of discussing some of the problems in swine production.

The Problems:

About two-thirds of the hog enterprises practice the two litter system, that is two litters of pigs per sow in one year, usually one litter in the early spring and one around late summer or early fall. More sows farrow in the spring than in the fall since the remaining one-third of the sows kept on the one litter system basis also will have their pigs sometime in the spring. Whenever these pigs reach the market the prices drop. The hog market, due mainly to the poor distribution of the hog supply, shows the largest price fluctuation, some times 50% throughout the year. This is the first item I would like to write about. The prolificacy and the fast growing ability of swine result in a great flexibility of the enterprise. This makes the hog raisers discontinue their activities when prices are low and start raising hogs anew when the prices are up. This, of course, will hurt the man who wants to stay in business permanently.

Another big problem is the over-all low price of swine. Not so very long ago hogs sold for more per pound than beef. Now the low selling value of the fat or lard produced by the swine creates a problem. There is not too much hope for higher lard prices, unless someone can find new industries where a great amount of lard can be used efficiently.

Recommendations to Solve the Problem:

I have just mentioned some of the problems, now I will try to find some answers to eliminate them. The most obvious approach to solving the problem of big price fluctuation during the year would be a more uniform supply of hogs. If the hog breeders bred his sows so that they will farrow equally during the whole year the supply of hogs on the market would be also more uniform and that would have a very beneficial effect on price fluctuation throughout the year. This idea is favored very much by the packing houses. More or less steady hog prices would contribute to better labor distribution, easier price calculation for the meat packer.

Some objection will arise on the part of the swine raisers. These objections will be in connection with housing and labor. Some hog raisers do not have the right kind of facilities to house their sows farrowed during the colder season. One other group of swine producers believe in having their pigs born during the period of the year when labor is not so badly needed on the farm. But if you would examine this situation more thoroughly, you will soon find that this prac-

(Continued on next page)

SWINE PRODUCTION (Continued)

tice will result in a better labor distribution, more efficient use of buildings, and due to fewer sows farrowing at the same time, less investment in housing.

The second item to be discussed is low hog prices. Someone may say that the solution to this problem is simply greater demand, that is higher consumption of pork products. I do not think that this is the answer. The overall meat consumption as such can be still increased and that will, of course, result in larger pork consumption. Maybe more hogs will be produced to satisfy the demand, but more fat will have to be marketed. It is also possible to boost the consumption of pork only, but that will be obviously at the expense of beef or other meat products.

When lighter hogs will reach the market not only less lard or fat will burden the market, but the individual hog will produce more meat in proportion to fat since meat sells much higher than lard or live hog.

Objections to this may come from two or more groups of people.

The first group is the one who produces the hog up to market weight. In most cases this is not the breeder. His objections will be: 1. the hog makes the largest daily gains between 175 and 225 lbs., 2. It will increase to some extent the overhead cost per hog since less units will be produced per hog. The second group to complain will be the corn or other grain producers, since feed consumption will be lowered. The third group might be the hog buyer himself since the carcass will not be firm enough as a certain amount of maturity is necessary for a firm carcass. I will try to answer these one by one. The hog makes the most efficient gains up to 165-175 lbs. The hogs will spend less time on the place to reach market weight. The turnover is faster, that is more hogs will be produced, but lighter in weight and that will certainly equalize the higher overhead.

From the 50 million swine slaughtered in one year about 40 million are sold at an average weight of 215 lbs., that is 4.3 million tons. If these hogs would go to market with an average weight of 165 lbs. that would mean a decrease of 1 million tons of swine. To make up for this loss we could market an additional 12 million hogs of 165 lbs. and still produce a considerable amount of fat less than the original 40 million hogs produced at 215 lbs.

The last objection is the quality of the carcass. This is probably the biggest problem. With more rigid selection and better breeding and feeding the carcass will certainly satisfy the requirements and we will be able to produce a better, leaner hog with an excellent carcass and with enough fat to insure juiciness, taste and quality of the meat. It should be mentioned that there are many packing houses and pork processing plants in other parts of the world which buy young hogs just around 160 lbs. in weight and process probably the finest quality bacon and other pork products. I do not believe that these proposals can be put into effect in a very short period of time, but at least they are worth considering.

MRC.

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DEDICATED MAN (Continued)

area, lectured about gardening on television, and published a pamphlet entitled "Practical Hints for Victory Gardens."

Mr. Purnell resigned his position at the National Farm School from 1931 to 1935 in order to operate the 230 acre fruit farm he had bought in Hopewell, N. J. In 1940 this 230 acre fruit farm was turned into a childrens camp and called Camp Harmony. Mr. Purnell returned to the Farm School in 1935 and resumed his work.

When the National Farm School was reorganized as a Junior College and later as a Senior College, Mr. Purnell was promoted to a Professor's position with the college. He lectured and conducted all Horticulture classes and labs. In later years he just confined himself to classroom instruction.

During his stay at our college Mr. Purnell lectured to quite a few farm organizations and clubs in this area, and he organized the Horticultural Society which, for a long while before any others were established, was the first Society on Campus.

It is largely through his devoted application to his teaching profession, that so many outstanding graduates remained in the Horticultural field and attained marked recognition.

He gave excellent service to the institution he spent half and the best years of his life with. He remained loyal to the College even when he was offered better opportunities and salaries from other colleges. His love and loyalty to the college was never understood even by his own family. Mr. Purnell is and will always be very attached to the National Agricultural College. He is one of the few men who grew with and helped the College attain the greatness it has today. He worked hard in expanding his department from its foundation stones to one of the best departments at the College. Today we are still reaping the benefits of his hard, earnest work and his exceptional horticultural knowledge.

Mr. Purnell resigned from the College in the summer of 1959 to work at and expand his camp program. When asked to comment on his feelings towards the future of N.A.C. Mr. Purnell said, "I must admit that it was hard to make a decision to break away from N.A.C. after 35 years of loyal and devoted life, with so many memories and friendships." He went on to say, "I will always cherish the valued friendship, help, and associa-

tion during all these years of President Work, Josh Feldstein, Dr. Turner and other members of the faculty." And about the College Mr. Purnell said, "I believe the college will grow and expand still more under the able leadership of President Work, who in my opinion, contributed more than anyone else to the success of the institution. N.A.C. has a bright future and an important mission to fulfill in educating the youth of America. No college offers the practical and scien-

tific training to the extent that this institution does." As a closing statement Mr. Purnell said, "The college deserves greater support and its future could be brighter if it could attract more financial contributions from endowments and foundations."

I would like to extend to Mr. Purnell in behalf of the students, faculty and alumni the sincerest wishes for a happy and healthy future and thanks for everything he has given us.

Man's Amazing Shell

Have you ever wondered, after bruising or cutting yourself, why nature didn't supply you with a tougher hide? Scientists have an answer. Your tender skin, they report, is far more than a protective covering: it is an organ ranking with the brain, heart and lungs in its importance to human life. It performs services of which you are hardly aware — services which would be hampered if it were a tough, thick hide.

Consider what happens when you cut your finger. At once blood gushes from the tiny blood vessels in the skin, washing out dirt and germs. Then the blood vessels constrict so that the flow diminishes, and soon a clot of rapidly hardening blood fills the gash. Like glue it attaches itself firmly to the two sides of the cut, then gradually shrinks, drawing the sides together.

As hours pass, threadlike connective-tissue cells called fibroblasts invade the clot from all sides, gradually building up new tissue. Once the gap has been solidly filled in, surface skin cells begin to grow from the two edges until they meet in the center, leaving only a hairline scar or none at all.

Each step in this process occurs at just the right time. Remember this when you cut or burn yourself, and don't try to scrape off the scab. You might interrupt important steps in the healing process, and be left with an unnecessary scar.

Your skin is a storehouse—and a remarkably roomy one too. If you weigh 150 pounds, you are carrying about 25 of these pounds in your skin, mostly as fats and water. When your body takes in more of these than it requires, some of the excess is deposited in your skin. Later on, the skin can return the materials to the blood stream for transportation to organs which need them. Salts, sugars

and other essentials are simply deposited in your skin. Your skin can also provide emergency blood rations to vital organs. Suppose that while walking down the street you are unexpectedly assaulted. Your muscles and internal organs immediately demand more blood for fight or flight. It comes partly from your skin, where small vessels shrink or collapse and bigger emergency channels open up to provide a rapid short-cut for blood hurrying up to the regions of need. As this blood leaves your skin you turn pale with fear, or with anger.

The blood vessels of the skin help keep your temperature normal. When your body gets too hot, they expand so that more blood flows to the surface of the skin and is cooled. When you go out in the cold, the skin's blood vessels contract, less blood enters the skin and internal heat is conserved.

The sweat glands in your skin are also temperature-regulating devices. When you get too hot, these glands secrete sweat, which evaporates and cools you.

Your skin is studded with nerve endings, subject to pain, itching or tickling. The nerve endings provide your sense of touch, which works in a remarkable way. From early infancy until your skin becomes wrinkled in old age, it is generally a little bit too small for you, and is therefore gently stretched. If the degree to which it is stretched changes, you feel you have been touched.

Thus when you rub a pencil gently along your skin, it is not really the pencil you feel but the change in stretch which the pencil produces in your skin. You may "feel" the pencil even when it only touches the hairs of your forearm, for each hair touched disturbs some nerve endings even so slightly.

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